

Remarks

In the July 31 Action, the Examiner objected to the drawings.

Claims 5 and 10 were rejected under 35 U.S.C. § 112, second paragraph, for purportedly being indefinite.

Claims 1-5 and 7-20 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent 5,984,806 to Sullivan et al.

Claims 1, 11-13, 16, 18, and 19 were rejected for obviousness-type double patenting for purportedly being unpatentable over claims 9 and 16 of U.S. Patent No. 6,261,193.

The Examiner indicated that claim 6 would be allowable if rewritten in independent form.

A. Objection to Drawings Has Been Remedied

In this regard, the Examiner asserted:

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the markings on the cover indicating the high-density regions (claim 6) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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Figs. 3 and 6 have been revised as required by the Examiner. Identifiers 11a and 18a are shown on Fig. 3 for markings and a printed band described on page 16, lines 2-12 of the application as originally filed. Identifiers 11a, 20a, and 38a are shown on Fig. 6 for markings described on page 17, lines 9-14 of the application as originally filed. The noted passages in the specification have been amended to conform to the Examiner's requested drawing clarifications. No new matter is added by any of these revisions or amendments since support is found throughout the application as originally filed.

It is believed that the objection to the drawings has been remedied and overcome.

B. Rejection of Claims 5 and 10 Under § 112, Second Paragraph Should Be Withdrawn

In support of the rejection of claims 5 and 10, the Examiner contended:

Claims 5 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5 and 10 recite the limitation "the cover" in lines 1 and 4, respectively. There is insufficient antecedent basis for this limitation in the claim.

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Claims 5 and 10 have been amended. It is believed that this ground of rejection should be withdrawn.

C. Rejection of Claims 1-5 and 7-20 Under § 102(b) Must Be Withdrawn

For this ground of rejection, the Examiner argued:

Claims 1-5 and 7-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sullivan et al (5,984,806). Regarding claim 1, Sullivan discloses a golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is equivalent to applicant's outer core layer. The inner cover layer includes a high-density region (figs 3 and 3B). As shown in the figures the high-density regions are located at the center of the golf ball, which is equivalent to applicant's location centered about the horizontal spin axis. Compare apps figure 3 and Sullivan's figure 3. Regarding claim 2, the high-density regions comprise a continuous or discontinuous band of high-density regions (see figures 4 and 8). Regarding claim 3, the band or high-density regions are disposed in the inner cover (apps outer core layer). Regarding claims 4 and 7-9, Sullivan discloses a band comprising two or more equally segmented parts as shown in the section of the golf ball in applicant's figure 10. Figure 8 of Sullivan displays a golf ball with two high-density bands that intersect in two locations. A section view of the golf ball would create a band comprising four equally segmented high-density regions identical to applicant's figure 10. Regarding claim 5, the weighting material is visible along the ball exterior (col. 7, lines 50-52). Regarding claim 10, figure 9 of Sullivan discloses 4 high-density bands, which in section view is equivalent to a high-density band comprising 8 equally spaced high-density regions. The golf ball includes an outer cover layer (fig 1). Regarding claim 11, Sullivan discloses a golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is equivalent to applicant's outer core layer. The inner cover layer includes a high-density region extending around the longitudinal axis of the core perpendicular to the ball's spin axis (figs 8). Regarding claims 12 and 13, the filler may be any type with a high specific gravity, such as tungsten, which has a specific gravity of 19.35 (see col. 25). Regarding claim 14, the high-density regions comprise a continuous or discontinuous band of high-density regions (4 and 8). Regarding claim 15, Sullivan discloses a band comprising two or more equally segmented parts as shown in the section of the golf ball in applicant's figure 10. Figure 8 of Sullivan displays a golf ball with two high-density bands that intersect in two locations. A section view of the golf ball would create a band comprising four equally segmented high-density regions identical to applicant's figure 10. Regarding claim 16, Sullivan discloses a golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is equivalent to applicant's

outer core layer. Regarding claims 17 and 18, the high-density band is continuous metal band (fig. 8). Col. 25 discloses metals such as aluminum (sp. 2.7) and nickel (sp. 8.9) used in the high-density region. Regarding claim 19, Sullivan discloses a golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is equivalent to applicant's outer core layer. The inner cover layer includes a high-density region (figs 3 and 3B). As shown in the figures the high-density regions are located at the center of the golf ball, which is equivalent to applicant's location centered about the spin axis. Compare apps figure 3 and Sullivan's figure 3. Regarding claim 20, the golf ball includes an outer cover layer.

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The '806 patent to Sullivan et al. is directed to technology for increasing the moment of inertia of a golf ball and thus reducing the initial spin rate of the ball, and also decreasing the spin decay of the ball once placed in rotation. The '806 patent describes various golf ball embodiments containing a wide array of weighting materials disposed in the cover or outer portions of the ball.

Specifically, the '806 patent discloses in this regard:

The inclusion of the [weighting] particles along with the production of a smaller core produces a greater (or higher) moment of inertia. This results in less spin, reduced slicing and hooking and further distance.

Col. 1, lines 23-26.

The '806 patent continues and notes:

The present invention is directed to new multi-layer golf ball compositions which provide for enhanced coefficient of restitution (i.e., improved travel distance) and/or durability properties when compared to the multi-layer balls found in the examples of the prior art. The travel distance of the balls of the invention is further improved by increasing the ball's moment of inertia and thereby reduce their overall spin rate.

* * *

As previously noted, a low spin ball is generally preferred, particularly for the less-skilled player. And, as noted, increasing the moment of inertia of the ball tends to reduce the spin rate of the ball. The present invention provides a remarkable and unique approach for readily increasing the moment of inertia of a golf ball.

Col. 7, lines 5-11 and 17-22.

The '806 patent further notes:

It has been found that the combination of the selection of materials and unique approach of the present invention produces a golf ball with an increased moment of inertia and/or a greater radius of gyration and thus generates lower initial spin. This results in a golf ball exhibiting enhanced distance without substantially affecting the feel and durability characteristics of the ball.

Col. 8, lines 61-67.

The '806 patent continues:

It has now been determined that the travel distance of such multi-layer golf balls can be further improved without substantially sacrificing the feel and durability characteristics of the ball through the inclusion of metal particles or other heavy metal filler materials in the inner cover compositions.

Col. 9, lines 50-55.

The '806 patent further notes:

It has been found that the greater the moment of inertia (or the farther the radius of gyration is to the center of the ball) the lower the spin rate is of the ball.

The present invention is directed, in part, to increasing the moment of inertia of a multi-layer golf ball by varying the weight arrangement of one or more of the cover, the inner layer, and the core components.

Col. 10, lines 8-15.

Furthermore, the '806 patent states:

As noted above, it has been found that increasing the weight of the ball towards the outer perimeter produces an increase in the ball's moment of inertia.

Col. 24, lines 50-53.

Furthermore, the '806 patent continues and notes:

The present invention also provides particular patterns of weighting materials disposed approximate or generally within the outer periphery of a golf ball. The use of a weighted perimeter has been found to increase a ball's moment of inertia and reduce the overall spin rate. In a most preferred embodiment, golf balls with weighted perimeters utilize a visible pattern of weighting material disposed along a portion of the outer periphery of the ball. Although not wishing to be bound to any particular theory, it is believed that characteristics and properties of a weighted perimeter ball in accordance with the present invention are affected, or at least influenced by, the shape or configuration of the pattern of weighting material along the ball's outer periphery. Moreover, for the most preferred embodiment balls utilizing a visible pattern of weighting material, the shape of such pattern can also sense [sic, serve] as a unique identifier of the ball. Furthermore, by providing a weighting system that is visible or otherwise viewable along a golf ball's exterior, a consumer may readily determine whether a particular golf ball comprises a weighting system.

Col. 26, lines 24-43.

The '806 patent additionally notes:

In all of the foregoing techniques, the incorporation of weighting material in a particular pattern is utilized to increase the moment of inertia of the ball. This results in increasing the travel distance of the ball by decreasing initial spin rates, yet maintaining playability of the ball by increasing terminal spin rates. That is, incorporation of patterns of weighting material in a golf ball decreases the spin decay

of the ball from the point of impact to the time at which the ball is at rest.

Col. 33, lines 28-36.

In contrast, the subject matter of the present application is directed to providing an improved golf ball having a controlled weight distribution about a designated spin axis. The weight distribution imparts stable spin characteristics to the ball and corrects side spin caused when the ball is not squarely hit.

Specifically, the present application explains these features as follows:

The present invention relates to golf balls, and more particularly, to an improved golf ball construction having a controlled weight distribution about a designated spin axis. The weight distribution imparts stable spin characteristics to the golf ball and corrects side spin caused when the ball is not squarely hit. In addition, the golf ball of the subject invention exhibits an increased coefficient of restitution (C.O.R.) and enhanced travel distance. The present invention is also directed to a method for producing a golf ball having a controlled weight distribution about a designated spin axis.

Page 1, lines 4-11 of the present application.

The current application further notes:

Unlike the conventional balls briefly described above, the balls of the present invention are not uniform in consistency. The balls of the invention have been specifically designed to produce a controlled weight distribution about a designated spin axis. In this regard, the subject golf balls of the invention utilize different density regions or gradients positioned at various locations within one or more layers of the balls. It has been found that this selectively controlled weight distribution imparts a spin stabilization effect about the ball's spin axis. Such a selected weight distribution also corrects the undesired side spin that is produced when the ball is incorrectly struck or mishit with a golf club.

Page 3, lines 4-12.

Furthermore, the present application describes:

Accordingly, the present invention is directed to improve golf ball components in golf balls employing the same, which have a weight distribution that produces a preferred spin axis. The preferred spin axis is perpendicular to a gyroscopic center plane and corrects side spin imparted by striking the ball with an open or closed club face.

Page 3, line 31 to page 4, line 3.

The present application additionally describes:

In one aspect, the present invention is directed to a golf ball comprising at least one high-density region centered about the spin or rotational axis of the ball. The region is positioned in the ball along the ball's gyroscopic center plane. The center plane is perpendicular to the desired or designated spin or rotational axis of the ball.

In this regard, it is rare during play that a golf ball exhibits pure backspin (rotation about a horizontal axis in flight) or pure

sidespin (rotation about a vertical axis in flight). Instead, the actual spin of a ball during flight is a combination of these spin characteristics. Consequently, during flight, a golf ball will typically spin about a tilted axis that is oriented at some angle.

In the present invention, the ball will produce a stabilized spin in flight, even if mishit. By utilizing a controlled weight distribution, the ball will reorient its spin pattern in flight.

Moreover, in another aspect, the ball can be oriented on the tee to produce a stable spin axis. For example, the ball can be oriented on the tee so that the spin axis is perpendicular to the line of flight or intended target. If the club strikes the ball in an open or closed position creating unintentional side spin, the controlled weight distribution of the ball will correct the side spin and reorient the rotation of the ball so that it rotates on its intended spin axis.

Alternatively, regardless of the initial orientation of the ball prior to striking with a club, once a sufficient spin rate is achieved the ball will reorient itself until the spin axis is perpendicular to the desired direction of travel. Consequently, regardless of how the ball is played on the tee, the ball will seek and find the same horizontal spin axis each time it leaves the club face.

Page 4, lines 7-30.

And so, it is readily apparent that the '806 patent is directed to an entirely different technology than the claims currently pending in the present application. The '806 patent is directed to increasing the weight along the perimeter of a golf ball to increase its moment of inertia. This, as explained above in the previously quoted passages, results in decreasing the extent of initial spin, and once spin is established, decreasing the spin decay of the golf ball in flight. In contrast, the pending claims are directed to imparting stable spin characteristics to a golf ball and correcting side spin caused when the ball is not squarely hit. These are significantly different problems and which are solved by different solutions and design configurations.

Upon closer review, it is respectfully submitted that the Examiner will understand that the '806 patent fails to anticipate any of claims 1-5 and 7-20. With regard to claim 1, claim 1 recites, in part, a golf ball comprising one or more high density regions interiorly disposed along a common plane and centered about the horizontal spin axis of the ball. The '806 patent entirely fails to describe one or more high density regions interiorly disposed along a common plane and centered about the horizontal spin axis of the ball. In fact, the '806 patent entirely fails to mention or identify the spin axis of any of the balls which it describes. Since independent claim 1 is believed to be patentable over the '806 patent, so, too, are claims 2-10, all of which depend or ultimately depend from claim 1.

Independent claim 11 recites in part a golf ball comprising a core which defines at least one hollow channel extending around the longitudinal axis of the core perpendicular to the ball's spin axis. As previously noted, the '806 patent entirely fails to describe the identification of a ball's spin axis, and thus, in no way discloses a longitudinal axis perpendicular to the ball's spin axis. For at least this reason, independent claim 11 is not anticipated by the '806 patent. Since independent claim 11 is patentable over the '806 patent, so, too, are claims 12-18 dependent therefrom.

Independent claim 19 recites in part a golf ball having a controlled weight distribution about the ball's horizontal spin axis comprising a core having a high density region interiorly disposed within the extension perimeter of the core along the ball's gyroscopic center plane and about the ball's spin axis.

The '806 patent entirely fails to describe a ball's horizontal spin axis, also entirely fails to describe a high density region interiorly disposed within the extension perimeter of the core along the ball's gyroscopic center plane and about the ball's spin axis. These important features are simply not recognized or appreciated by the '806 patent. Independent claim 19 is not anticipated, and thus is patentable over the '806 patent. Since claim 19 is patentable over the '806 patent, so, too, is claim 20 dependent therefrom.

D. Rejection of Claims 1, 11-13, 16, 18, and 19 for Obviousness-Type Double Patenting Has Been Remedied

The Examiner alleged that:

Claims 1, 11-13, 16, 18, and 19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9 and 16 of U.S. Patent No. 6,261,193. Although the conflicting claims are not identical, they are not patentably distinct from each other because the '193 patent anticipates the present invention.

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Enclosed herewith is a Terminal Disclaimer. This ground of rejection has been remedied.

E. Allowed Claim 6

In accordance with the Examiner's suggestions, claim 6 has been amended and placed in independent form. Accordingly, that claim is in condition for allowance.

F. Conclusion

In view of the foregoing, it is submitted that all of claims 1-5 and 7-20 are also in condition for allowance.

Respectfully submitted,

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